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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/644,932

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EXAMINER

RUSSELL, WANDA Z

ART UNIT

PAPER NUMBER

2462

NOTIFICATION DATE

DELIVERY MODE

05/21/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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USPTO.MTL@SMART-BIGGAR.CA

<b>Office Action Summary</b>	<b>Application No.</b> 10/644,932	<b>Applicant(s)</b> GAUTHIER ET AL.	
	<b>Examiner</b> WANDA Z. RUSSELL	<b>Art Unit</b> 2462	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 April 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24, 27, 30-32 and 34-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24, 27, 30-32, and 34-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-2, 4-8, 10-11, 13-18, 20-23, 27, 34-37, 39, and 40** are rejected under 35 U.S.C. 102(b) as being anticipated by Han et al. (U.S. Patent 6,430,200 B1).

For **claims 1, 10, 17, 27, and 35**, Han et al. teach a device, a method, and system for integration into a base station (see apparatus in Fig. 2. Fig. 2 is a base station, see col. 4, lines 15-17 for description of Fig. 2), a method (see Title), a system and a base station (see Fig. 2) of a type that includes at least one radio-transceiver (see 300, 310, and 330 in Fig. 2) for receiving and transmitting radio communications to a plurality of subscriber stations (The 300, 310, and 330 are for receiving and transmitting radio communications to a plurality of subscriber stations, see col. 2, lines 39-42 for description of receiving and transmitting radio communications regarding source BS and target BS when the mobile station –subscriber- is moving. Note that although the Fig. 2 only shows arrows for processing with one direction, it is known in the art that the transceiver works at both directions for receiving and transmitting. And it is known in the art that each BS communicates with a plurality of subscriber stations, see cited Jonsson reference, Abstract, for evidence), the device comprising:

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an input device (see Modem 200 in Fig. 2) configured to be coupled to the at least one radio-transceiver (see 200 – 100 – 500 in Fig. 2) for receiving a handoff signal (the digital hardware MODEM is used for a hand-off, see col. 2, lines 66-67. It implies receiving a handoff signal, And, as described above, the transceiver is also for receiving the request from the mobile station, then send to the Modem) from the at least one radio-transceiver (the mobile station will request a hand-off, see col. 2, line 43) at a first mode respective to a first coverage area of the communication system (see FA #1 in Fig. 2);

an output device (see 530 in Fig. 2) for delivering the handoff signal (the IF amplifier/divider 100 transmits ... a second portion of the divided IF signal through the RF path unit 530 for producing frequency #3 (which is utilized for generating a pilot signal), see col. 5, lines 11-13) at a second mode (frequency #2, see Fig. 2) respective to a second coverage area (coverage areas of multiple frequencies, refer to col. 5, lines 9-17, and frequency #2, see col. 4, line 64 & lines 61-64, and Fig. 2. It implies that the frequency #2 covers second area);

a converter (see 210 in Fig. 2) coupled to said input device and said output device (see Fig. 2. The 210 is coupled to 200 and 510) for translating the handoff signal from the first mode into the second mode (MODEM 210, which is coupled to a service RF path unit 510, produces an intermediate frequency which results in a frequency #2, see col. 4, lines 61-64. Note that the Examiner interprets “produces” as (1) uses the IF - FA #3, the pilot signal generated from unit 100 in Fig. 2 to switch from FA 1 to FA 2, or (2) in the case of mobile station moving from area #2 to area #1, the functions of

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Modem 1 and 2 will be swapped, so the Modem 210 can play the function of Modem 200 to produce the handoff signal); the second mode handoff signal for indicating to a subscriber station operating in the second mode within both of the coverage areas to switch from the second mode to the first mode so that the subscriber station operates in the first mode (coverage areas of multiple frequencies, refer to col. 5, lines 9-17. It implies that the frequency #1 covers first area and the frequency #2 covers second area).

For **claims 2, 11, 18, and 37**, Han et al. teach the device wherein said first coverage area and said second coverage area of said system are each based on a respective protocol selected from the group consisting of CDMA, TDMA, GSM, GPRS, AMPS and FDMA (CDMA, see col. 1, line 21).

For **claims 4, 13, 20, and 39**, Han et al. teach wherein said handoff signal is a conventional CDMA re-direction signal (CDMA, see col. 1, lines 10-12), and wherein said first mode is a first frequency and said second mode is a second frequency different from said first frequency (see FA #1 and #2 in Fig. 2).

For **claims 5 and 14**, Han et al. teach the device wherein said first coverage area and said second coverage area are served by respective CDMA base stations (hand-off in a CDMA system ... when a mobile station travels from a "source base station" to a "target base station", see col. 1, lines 10-12 & 25-26).

For **claims 6, 15, 21, and 36**, Han et al. teach the device wherein said output device is configured to transmit said handoff signal to a base station power combiner for

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delivering said converted handoff signal to a base station antenna for outputting said handoff signal (see 430 in Fig. 2).

For **claims 7 and 22**, Han et al. teach the device wherein said converter comprises a down-converter (see divider 100 in Fig. 2) configured to receive said handoff signal from said input device and for converting said handoff signal from said first frequency to an intermediate frequency (see 200 – 100 -530 to produce FA #3. Also refer to parent claims 1 and 17 for conversion details) and an up-converter (see Modem 210 in Fig. 2) for converting said intermediate frequency to said second frequency (MODEM 210 ... produce an intermediate frequency which results in a frequency #2, see col. 4, lines 61-64).

For **claims 8 and 23**, Han et al. teach the device further comprising a microcontroller operably connected to said down-converter and said up-converter such that said first frequency and said second frequency is user-selectable (it is inherent that the device must use a microcontroller, and an user and base station can exchange information to make is user selectable, see cited Jonsson reference, col. 8, lines 18-25 for evidence).

For **claim 16**, Han et al. teach the method further comprising receiving an input signal identifying at least one said frequencies for use in performing a reminder of the steps (see FA #1 in Fig. 2).

For **claim 34**, it is a combination of claims 1, 4, and 7, therefore it is rejected for the same reason above.

For **claim 40**, Han et al. teach the base station according to claim 39 wherein said base station is a first CDMA base station and said second coverage area is served by a second CDMA base station different from said first CDMA base station (performing a hard hand-off in a code division multiple access (CDMA) cellular system, see col. 1, lines 10-12, and 25-26).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 12, 19, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Han et al., in view of Einola et al. (US Patent No.6771964).

For **claims 3, 12, 19, and 38**, Han et al. teach everything claimed as applied above (see 1, 2, 10, 11, 17, 18, 35, 37).

However, Han et al. fail to specifically teach the device wherein said protocols respective to said coverage areas are different.

Einola et al. teach the device wherein said protocols respective to said coverage areas are different (GSM, TDMA, CDMA, etc, see col. 1, lines 15-20, and col. 2, line 18).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Han et al. with Einola et al. to obtain the invention as specified, to apply the handoff to different protocols for use's advantage.

5. Claims 9, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Han et al., in view of Panchal et al. (Pub No. US 20040224711).

For **claims 9 and 24**, Han et al. teach everything claimed as applied above (see 1, 4, 7, 8, 17, 20, 22, 23). In addition, Han et al. teach the device generating alarms if said converter operates outside of desired specifications (a buzzer to notify a user, see col. 7, lines 1-5).

However, Han et al. fail to specifically teach the device wherein said microcontroller is further configured to perform at least one of logging various conversions performed by said converter.

Panchal et al. teach wherein said microcontroller is further configured to perform at least one of logging various conversions performed by said converter (processor ... receives the information ... and stores the identity of the BS 106 traffic channel, TCH 111, and/or other soft handoff information, see [0033]. Although the processor is in the mobile station, it is obvious that it can be in the base station as well).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Han et al. with Panchal et al. to obtain the invention as specified, to save the handoff information for keeping Neighbor List Update Message for future use (see Panchal et al., [0033]).



6. Claims 30-32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Han et al., in view of Bach (US Patent No. 6353742).

For **claim 30**, it is similar to claim 1 except the limitation of data-processing equipment for carrying at least a portion of said communications over a backhaul.

Bach teaches data-processing equipment for carrying at least a portion of said communications over a backhaul (Different delays can be caused by differential delays in each base station's backhaul, by BTS processing delays, by the propagation delays of uplink communication signals, see col. 5, lines 45-47).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Han et al. with Bach to obtain the invention as specified, to cover the backhaul option for faster and less expensive, communication.

For **claim 31**, it is similar to claim 5 except depending on claim 30, therefore it is rejected for the same reason above.

For **claim 31**, it is a part of preamble of claim 1, therefore it is rejected for the same reason above.

### ***Response to Arguments***

7. Applicant's arguments, filed 10/16/2009, have been fully considered, and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made. See details above.

***Citation of Pertinent Art***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Einola et al. (US Patent No.6771964) teach handoff process.

Jonsson et al. (US Patent No. 5513246) teach the device must use a microcontroller, and an user and base station can exchange information to make is user selectable, see col. 8, lines 18-25.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WANDA Z. RUSSELL whose telephone number is (571)270-1796. The examiner can normally be reached on Monday-Thursday 9:00-6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Wanda Z Russell/  
Examiner, Art Unit 2462

/Kevin C. Harper/  
Primary Examiner, Art Unit 2462